

**TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531**



SIGNIFICANT MODIFICATION #1

OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: March 24, 2003

Permit Number: 548133

Date Modified: PROPOSED

Date Expires: March 23, 2008

Issued To:

Installation Address

Alcoa, Inc. – North Plant - Fabrication

2300 North Wright Road
Alcoa

Installation Description: (Significant Modification Only)

North Plant Fabrication; Tennessee Operations; Aluminum Company of America

05-0090-42: Continuous Cold Mill

Emission Source Reference No.: 05-0090

Renewal Application Due Date: Between 06/27/2007 and 09/25/2007

Primary SIC: 33

Responsible Official:

Name: Mel Lager

Title: Vice-President and General Manager, Tennessee Operations

Facility Contact Person:

Name: Chris Moore

Title: Environmental Engineer

Phone: (865) 977-2403

Information Relied Upon:

Application dated August 1, 1997

Revisions dated July 31, 1998, July 26, 1999,
and August 22, 2000

Significant Modification Dated: March 23, 2004

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST OR FILE AT INSTALLATION ADDRESS

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ATTACHMENTS

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SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

05-0090	Facility Description:	North Plant - Fabrication; Tennessee. Operations; Alcoa, Inc.
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Conditions E2(a) apply to all sources in Section E of this permit unless otherwise noted.

E2. Reporting requirements (Supplemental information for the continuous cold mill significant modification)

(a) **Semiannual reports.** The ~~first~~ report for the continuous cold mill shall cover the 6-month period from January 1, 2005 to June 30, 2005 and shall be submitted within 60 days after the 6-month period ending June 30, 2005. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report.

These semiannual reports shall include:

- (1) Any monitoring and recordkeeping required by Conditions **E4-1, E4-2, E4-3, E5-1, E8-1, E9-1, E9-2, E10-1, and E11-1** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) The visible emission evaluation readings from Condition **E3-1** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-3-9-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (1) The identification of each term or condition of the permit that is the basis of the certification;
- (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
- (3) Whether such method(s) or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (4) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in **E2(b)2** above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and
- (5) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

The ~~first~~ certification for the continuous cold mill shall cover the 12-month period from January 1, 2005 to December 31, 2005 and shall be submitted within 60 days after the 12-month period ending December 31, 2005. Subsequent certifications shall be submitted within 60 days after the end of each 12-month period ~~following the first certification~~.

These certifications shall be submitted to: **TN APCD** and **EPA**

The Technical Secretary	and	Air and EPCRA Enforcement Branch
Division of Air Pollution Control		US EPA Region IV
ATTN: East Tennessee Permit Program		61 Forsyth Street, SW
9th Floor, L & C Annex		Atlanta, GA 30303
401 Church Street		
Nashville, Tennessee 37243-1531		

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

05-0176-06 Source Identification: North Plant – Continuous three-stand cold rolling mill installed in 1987. The mill receives cooled aluminum coils from either the hot line or the annealing furnaces and rolls the coils to final product specifications. The cold mill has a maximum capacity of 3600 tons of aluminum coil per day and 128.10 tons of make-up oil per month, and the emissions are exhausted through four emission points TNMILL0417_EP, TNMILL0418_EP, TNMILL0419_EP and TNMILL0420_EP. Two horizontal cyclonic separators control particulate emissions from stack TNMILL0417_EP. A wet cyclone collector controls particulate emissions from stack TNMILL0420_EP. Emission point TNMILL0418_EP is commutator exhaust that is listed as an insignificant activity. TNMILL0419_EP are fugitive emissions from the coolant system

Stack IDDescription

TNMILL0420_EP

Welder Stack Exhaust

TNMILL0417_EP

CCM Exhaust Stacks (2 stacks)

Condition E4-1 through E4-3 applies to source 05-0090-42

- E4-1.** The process material input rate for this source shall not exceed 300,000 pounds per hour (lb/hr) of aluminum based on a 24-hour average and 350 lb/hr of net make-up oil based on a monthly average.

TAPCR 1200-3-9-.01(4)

Permit 742926P, Condition 2

Compliance Method: The permittee shall assure compliance with this condition by keeping records of all the aluminum processed at this source and all net make-up oil used at this source. A copy of these records shall be available to the Technical Secretary if requested and reported in accordance with condition **E2**. The records shall be maintained for a period of not less than five years. The records shall contain the following information:

Aluminum Processed (pounds per day)

Aluminum Processed 24 Hour Average (pounds per hour) =

$$\frac{\text{Aluminum Processed (pounds per day)}}{24 \text{ (hours per day)}}$$

Net Make-up Oil Added per Month (pounds per month)

Monthly Average for Oil Usage (pounds per hour) =

$$\frac{\text{Total Net Make-up Oil Added (pounds per month)}}{(\text{number of days in month} * 24 \text{ hour per day})}$$

- E4-2.** Particulate matter (TSP) emitted from this source shall not exceed 19.57 pounds per hour based on a 24-hour average and 0.25 grains per dry standard cubic foot.

TAPCR 1200-3-7-.01(5)

Compliance Method (Welder): The control equipment shall be maintained, kept in good operating condition, and inspected semiannually to ensure compliance with the applicable particulate matter limits. Documentation of the semiannual inspections and any maintenance performed shall be kept on site for a period of not less than five (5) years. A ~~monthly~~ summary of these records shall be kept and reported in accordance with Condition **E2**.

Compliance Method (Continuous Cold Mill) : Compliance with the hourly emission limitation rate shall be assured through periodic monitoring and inspection of pollution control equipment. This process shall not operate without the use of at least one of the two horizontal cyclonic separators to collect and control particulate matter air contaminants. Each cyclone shall be externally inspected daily to assure that abrasion holes and plugging problems have not developed. Any abrasion holes shall

be promptly repaired. Any ductwork with plugging problems shall be remedied promptly. Records of inspections and any maintenance activity shall be kept for a period of five (5) years.

The compliance assurance monitoring (CAM) plan is included in Attachment 1.

- E4-3.** Volatile organic compound (VOC) emissions from this source shall not exceed 13.5 tons per month and 153.5 tons per all intervals of twelve (12) consecutive months.

TAPCR 1200-3-7-.07(2).

Compliance Method: Compliance shall be assured by calculation of the actual VOC emissions based on the adjusted pounds of oil loss for the mill emissions and the number of welds for the welder multiplied by the relevant VOC emission factors. An emission factor of 0.138 lb VOC/lb oil shall be used to represent Continuous Cold Mill stack emissions and an emission factor of 0.027 lb VOC/lb oil shall be used to represent Oil House emissions. Welder VOC emissions shall be calculated using an emission factor of 0.01 lb VOC per weld. A record of the monthly adjusted pounds of oil loss and results of emissions calculations shall be maintained on site for at least 5 years and shall be made available for review upon request by the Technical Secretary or his representative.

Adjusted oil loss (pounds per month)

Number of welds made by the miebach welder (welds per month)

VOC Stack emissions (mill and welder, lbs/month)

VOC Oil House emissions (lbs/month)

Monthly VOC emissions (tons per month)

Twelve month VOC emissions (tons/all intervals of twelve consecutive months)

Where

VOC Stack emission (lb/month) = Adjusted make-up Oil added per month (lb/month) * 0.138 lb VOC/ lb Oil

VOC Oil House emissions (lb/month) = Adjusted make-up Oil added per month (lb/month) * 0.027 lb VOC/ lb Oil

VOC Welder Emissions (lb/month) = Number of welds per month * 0.01 lb VOC / weld

Monthly VOC emissions (tons per month) = Monthly totals (Welder, Stack and Oil House emissions) ÷ 2000 (lb/ton)

- E4-4.** With the exception of the particulate emissions compliance assurance in Condition E4-2, and the modified submittal schedule in E2, the permittee shall comply with all terms and conditions of the Title V permit #548133 for this facility.

END OF SIGNIFICANT MODIFICATIONS TO THE TITLE V PERMIT NUMBER: 548133

ATTACHMENT 1

**COMPLIANCE ASSURANCE MONITORING PLAN FOR PARTICULATE
EMISSIONS FROM CONTINUOUS COLD MILL**

DATED: MARCH 23, 2004

Compliance Assurance Monitoring Plan for Particulate Emissions from Continuous Cold Mill



**ALCOA
Tennessee Operations**

Continuous Cold Mill

ENV-212

Document Manager: C. Moore

Prepared By:

**Alcoa Inc. – Tennessee Operations
2300 North Wright Rd.
Alcoa, Tennessee 37701**

March 23, 2004

Note: This is considered an uncontrolled document unless it is being viewed on-line from the Tennessee Operations Environmental Homepage.

INTRODUCTION

Compliance assurance monitoring (CAM) as codified in 40 CFR Part 64 is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act (CAA) for large emission units that rely on pollution control device equipment to achieve compliance. Monitoring is conducted to determine that control measures, once installed or otherwise employed, are properly operated and maintained so that the continue to achieve a level of control that complies with applicable requirements. The CAM approach establishes monitoring for the purpose of:

1. Documenting continued operation of the control measures with ranges of specified indicators of performance that are designed to provide a reasonable assurance of compliance with applicable requirements;
2. Indicating any excursions from these ranges; and,
3. Responding to the data so that the cause or causes of the excursions are corrected.

The following sections of this CAM Plan address each of the above elements.

1.1 Plant Description and Operation

The Continuous Cold Mill (CCM) process receives cooled coils from the hotline and consists of a Miebach welder that has a cyclone/wet collector for particulate control; an accumulator; and the CCM that consists of the cold mill, a coolant system, and horizontal cyclonic separators (2).

Affected emission units covered by this CAM plan are summarized below:

Emission Unit	Description	Pollutant
CCM	Cold mill horizontal cyclonic separators (2)	Particulate

CAM PLAN ELEMENTS

2.1 Indicators to be Monitored (64.3(a)(1))

Indicators of emission control performance of the control device must be monitored to assure compliance with emission limitations or standards. The following indicator is to be monitored:

Parameter	Emission Unit	Pollutant
Inspection/Maintenance Activities	CCM	Particulate

2.2 Indicator Range (64.3(a)(2))

The indicator range for the emission unit will be as follows:

Emission Unit	Parameter	Indicator Range
CCM	Inspection/ Maintenance Activities	External inspection indicates no abrasion holes or any plugging problems. If abrasion holes or plugging is identified, these are to be remedied promptly.

2.3 Performance Criteria (64.3(b))

The following performance criteria was established:

Emission Unit	Parameter	Monitoring Requirement	Frequency
CCM	Inspection/Maintenance Activities	Each horizontal cyclone shall be externally inspected to assure that abrasion holes and plugging problems have not developed. Documentation of the inspection will be maintained along with any maintenance activities.	Daily (when operating)